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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,152	02/18/2005	Roger Alberto	1582 WO/US	5284

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Tim A Cheatham
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EXAMINER

GROSS, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1639

MAIL DATE	DELIVERY MODE
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10/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,152	Applicant(s) ALBERTO ET AL.	
	Examiner Christopher M. Gross	Art Unit 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12,13,15-17 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-10,12,13,25,26 and 29-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-17,20-24,27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/27/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Responsive to communications entered 9/4/2007. Claims 1-10,12,13,15-17,20-31 are pending. Claims 1-10,12,13,25-26,29-31 are withdrawn. Claims 15-17,20-24,27,28 are examined herein.

Election/Restrictions

Applicant's election of invention I (claims 15-17,20-24, and new claims 27,28), drawn to a solid-phase bound organic-metal conjugate represented by formula I of claim 15 in the reply filed on 9/4/2007 is acknowledged. Applicant's election of a solid-phase bound organic-metal conjugate wherein the solid support is polystyrene/polyethylene glycol resin, R1 is a metal coordinating group with a biologically active molecule; R2 is a metal coordinating group; R4=R5=H; L is a single bond; and the biologically active molecule is a pharmaceutically active small molecule in the reply filed on 9/4/2007 is acknowledged.

During a telephone conversation with Anthony Kinney on 9/28/2007 the pharmaceutically active small molecule was further elected as biotin.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-10,12,13,25-26,29-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/4/2007.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119 as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the prior application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Prods., Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994) [taken from MPEP 201.01]

The present application, filed 2/18/2005 claims priority as a 371 of PCT/US03/27665 filed 09/02/2003 and further to European application (EPO) 02078743.8 filed 09/03/2002. Nevertheless, the entire solid phase embodiment, specifically claims 15-17,20-24,27,28 is not disclosed in the European application (09/082038).

Therefore 9/2/2003 is the date for the purposes of prior art concerning claims 15-17,20-24,27,28.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-17,20-24,27,28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 20 each recite the limitations concerning C as being both a methylene (-CH₂-) group while simultaneously providing R4 and R5 as possible substitutions. This represents a vague and indefinite structural limitation because C as Carbon may only form four bonds, making the molecular configuration of the tertiary amine linkage to the solid phase support ambiguous and the metes and bounds of the claims unascertainable.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "molecule" in claim 20, line 4 is used by the claim to mean "a solid support", while the accepted meaning is "at least two atoms held together by covalent bonds" The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15,16, 20-24,27 are rejected under 35 U.S.C. 102(b) as being anticipated by Langer et al (2001 Bioconjugate Chem 12:1028-1034 – IDS entry 4/27/2007).

The claimed subject matter per claim 15 is drawn to a solid-phase organic conjugate represented by formula I, shown therein.

Claims 16, 20-24,27 represent variations thereof.

Langer et al teach, throughout the document and especially figures 1 and 2, the solid-phase preparation of a pancreatic peptide comprising a 2-picoylamine-N,N-diacetic acid (PADA) metal chelating complex.

In particular, the PADA of Langer et al reads on claims 15 and 20 when L is a linker, C is methylene, that is, $R_4=R_5=H$ (elected species), R1 is a metal coordinating group with a pharmaceutically active molecule and R2 are is a metal coordinating group.

Said pancreatic peptide of Langer et al reads on the pharmaceutically active molecule of claim 16.

Langer et al teach on p 1029 and 1030, each under radiolabeling reactions with $[^{99m}\text{Tc}(\text{OH}_2)_3(\text{CO})_3]^+$, in a Wheaton sample vial which is taken as the reaction vessel of

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claim 21 and container of claim 20. Said [$^{99m}\text{Tc}(\text{OH}_2)_3(\text{CO})_3$] $^+$ reactions of Langer et al include metal solutions and reagents, such as set forth in claims 22 and 23.

Langer et al teach on p 1029, under Peptide Synthesis, preparation by solid-phase synthesis, which inherently includes a facility for filtration [of solvents, excess reagents, etc] , as set forth in claim 24.

Said PADA of Langer provides the picoylamine and actetic coordinating groups, such as set forth in claim 27.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15,16, 20-24,27 and 17,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Langer et al** (2001 Bioconjugate Chem 12:1028-1034 – IDS entry

4/27/2007) in view of **Dunn-Dufault et al** (2000 Nuclear Medicine and Biology 27:803-807 – IDS entry 4/27/2007)/

Langer et al is relied on as above.

Langer et al do not teach polyethyleneglycol-polystyrene supports (claim 17), biotin (claim 28), or L as a single bond (elected species of claims 15 and 20).

Dunn-Dufault et al teach, throughout the document and especially the title and abstract a solid-phase technique for the preparation of Technetium-99m radiopharmaceuticals comprising biotin, such as "RP488."

In particular, Dunn-Dufault et al teach in figure 1, a linker attached to metal coordination center by one bond (elected species). Dunn-Dufault teach on p 804, loading of RP488 on Argogel, which is a polyethyleneglycol grafted polystyrene support. Dunn-Dufault teach said RP-488 is biotinylated.

It would have been *prima facie* obvious for one of ordinary skill in the art, at the time the claimed invention was made to utilize introduce the biotin and used the polyethyleneglycol grafted polystyrene support of Dunn-Dufault et al with the radiolabeled peptide of Langer et al.

One of ordinary skill in the art would have been motivated to use the biotin and the polyethyleneglycol grafted polystyrene support of Dunn-Dufault et al with the radiolabeled peptide of Langer et al because it would provide the means to perform biodistribution studies, as demonstrated by Dunn-Dufault in table 1 - important information regarding any *in vivo* labeling reagent .

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One of ordinary skill in the art would have had a reasonable expectation of success in combining the biotin and the polyethyleneglycol grafted polystyrene support of Dunn-Dufault et al with the radiolabeled peptide of Langer et al because both Dunn-Dufault et al and Langer et al are concerned with radiolabeling peptides with ^{99m}Tc, thus the method of Dunn-Dufault et al lies well within the scope of the teachings of Langer et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Gross whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Douglas Schultz can be reached on 571 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M Gross
Examiner
Art Unit 1639

cg

/Jon D. Epperson/
Primary Examiner, AU 1639